

ABSTRACT OF THE DISCLOSURE

This substrate processing apparatus supplies wafers W accommodated in a closed processing container 10 with ozone gas and steam for processing the wafers W. The apparatus includes an ozone-gas generator 40 for supplying the ozone gas into the processing container 10, a steam generator 30 for supplying the steam into the processing container 10 and a steam nozzle 35 arranged in the processing container 10 and connected to the steam generator 30. The steam nozzle 35 is equipped with a nozzle body 35a having a plurality of steam ejecting orifices 35f formed at appropriate intervals and a heater 35h for preventing dewdrops of the steam from being produced in the nozzle body 35a. Consequently, it is possible to prevent the formation of dewdrops of solvent steam, which may produce origins of particles in the closed processing container, unevenness in cleaning (etching), etc., and also possible to improve the processing efficiency.